

S/0131/64/JXO/C01/C026/C033

ACCESSION NR: AP4015330

AUTHORS: Zubakov, S. M.; Yusupova, E. N.

TITLE: Phase composition of chromium-magnesite refractories

SOURCE: Ogneupory\*, no. 1, 1964, 28-33

TOPIC TAGS: refractory material, chromium magnesite refractory, converter  
refractory material, crown refractory material, periclase spinel, magnesium spinel,  
phase transformation.

ABSTRACT: This work was carried out in order to study the influence of different Kimmersaysk chromite ores (from newly discovered deposits) on the phase composition of chromium-magnesite refractories. It was established that the quality of the refractories can be improved by the formation of secondary magnesite spinels during the manufacturing process because these minerals have a stable crystalline lattice and a melting temperature above 2100°C. The same result may be achieved when the phase composition of these materials approaches the state of equilibrium. High quality refractories call for the use of chromite and magnesite powders and the application of a high temperature annealing above 1750°C. The usual briquette-

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ACCESSION NR: AF4015330

making technique should be followed in the production of crown or converter refractories. However, the common method of producing the magnesite-chromite refractories out of coarse chromite ore powders for lining furnace crowns is undesirable. This technique results in the formation of phases which do not occur in the state of equilibrium and which have low melting points. Moreover, the secondary spinels produced in this way have inferior properties in comparison to those of magnesium spinels formed during the production of periclase-spinel refractories. It is concluded that the production of high quality crown refractories and of the magnesium-chromite materials containing periclase-spinels (melting point above 2100°C) requires the use of the enriched Kimpersaysk ore and of magnesite powder with a minimum content of impurities. Orig. art. has: 3 tables.

ASSOCIATION: Institut metallurgii i obogashcheniya AN KazSSR (Institute of Metallurgy and Ore Treatment AN Kazakh SSR)

SUBMITTED: 00

DATE ACQ: 10Feb64

ENCL: 00

SUB CODE: MM

NO REF Sov: 009

OTHER: 005

Card 2/2

KALANTAR, N.G.; GLAZUNOV, V.I.; MANNAFOMA, V.S.; Prinimali uchastiye:  
GABSATAROVA, S.A.; YUSUPOVA, F.S.

Composition and properties of transformer oil distillates from  
Tuymazy petroleum. Khim.i tekh.topl.i mazel 7 no.5:43-49 My  
'62. (MIRA 15:11)

1. Bashkirskiy filial AN SSSR.  
(Tuymazy region—Petroleum) (Insulating oils)

KALANTAR, N.G.; FRYAZINOV, V.V.; YEVSTUKOV, Ye.I.; EDEL'GENTEYEV,  
I.Ya.; BONDARENKO, M.F.; Prinimali uchastiye: KAMAFOTOVA, V.S.,  
mladshiy nauchnyy sotrudnik; YANGURAZOVA, D.I., mladshiy nauchnyy  
sotrudnik; GABSAATTAROVA, S.A., laborant; YUSUPOVA, F.S., laborant  
KUZ'MINA, A.Ya., laborant

Transformer oil from the distillates of sulfur-bearing eastern  
crudes. Khim.i tekh.topl.i masel 5 no. 11:15-22 N '60.  
(MIRA 13:11)

1. Otdel khimii Bashkirskogo filiala AN SSSR; Novo-Ufimskiy  
neftepererabatyvayushchiy zavod; Ufimskiy neftyanoy institut.
2. Otdel khimii Bashkirskogo filiala AN SSSR (for Kanafeva,  
Yangurazova, Gabssattarova, Yusupova, Kuz'mina).  
(Insulating oil)

LAZEYEVA, G.S.; PETROV, A.A.; YUSUPOVA, G.A.

Use of the method of isotopic equilibration for determining oxygen  
in metals. Vest. LGU 20 no.4:141-142 '65.

(MIRA 18:4)

DATA FILE NUMBER: RDP86B00513R001963310008-0  
FILE DATE: 04/07/2001 SUBM DATE: 04/07/2001 ORIG REF: 001  
ACC NR: 11, 20 /

AUTHOR: Lazeyeva, J. S.; Petrov, A. A.; Yusupova, S. A.

ORG: none

TITLE: Use of isotopic equilibrium in determining oxygen in metals

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1965, 141-142

TOPIC TAGS: iron, cobalt, power metal, carbon steel, tungsten, metal melting, spectroscopic analysis, oxygen, isotops

describing low temperature ( $\sim 1150^\circ C$ ) isotopic equilibrium which

exists between the oxygen in the melt and the oxygen in the gas phase. This is given

in the form of a graph showing the dependence of the oxygen concentration in the

gas phase on the partial pressure of oxygen at a constant temperature of  $1150^\circ C$ .

The authors also describe the method of determining oxygen concentration in the

gas phase by the vacuum melting method. The results obtained are in full agreement with the data found

by the vacuum melting method. Orig. art. has: 1 table. Leng.

by the vacuum melting method. Orig. art. has: 1 table. Leng.

SUB CODE: 11, 20 / SUBM DATE: 04Jul64 / ORIG REF: 001

Card 1/1

YUSUPOVA, I.U.; RZHEZHIN, V.P.; RAKHMANOV, R.R.

Micromethod for determining gossypurpurin, free and bound  
gossypol in the gossypol glandules. Uzb. biol. zhur. 7  
no.4:8-13 '63 (MIRA 17:2)

YUSUPOVA, Kh.Kh.

Change in the content of total proteins and protein fractions in  
the blood serum of Azerbaijan mountain Merino sheep fetuses. Ukr.  
biokhim. zhur. 37 no.4:602-607 '65. (MIHA 18:9)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut zhivotno-  
vodstva i Kafedra biokhimii Azerbaydzhanskogo sel'skokhozyayst-  
vennogo instituta.

100000-257-100000

UR/0166/65/007 04/0055 0048

AUTHOR: Al'iov, M. I. Ant'ya, V. V. Yusupova, M. M.

TITLE: Excess current of a tunnel diode 2547

SOURCE: AN Ussr. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1965,  
55-56

TOPIC-MOTS: Tunnel current, Tunnel diode, Tunnel effect, Impurity center, Semiconductor band structure

ABSTRACT: Contrary to tunnel diode theory, at minimum voltage ( $V_{min}$ ) the current

is 6-7 orders of magnitude larger than the diffusion current ( $I_d$ ). The excess current is proportional to  $(V - V_{min})^2$ . At the same time, the tunnel current is proportional to  $(V - V_{min})^{1/2}$ . The excess current is determined by the density of states in the conduction band, the density of states in the valence band, the density of states in the impurity center, and the density of states in the valence band of the host material.

L 00270-66

ACCESSION NR: AP5020858

movement due to the tunnel effect. With a deep acceptor impurity (when an external field  $E_x$  passes the barrier until  $E_x$  corresponds with the Fermi level of the n-region) the electrons in the acceptor level pass into the free level of the conduction zone (see Fig. 3 on the Enclosure). The analytical expression for  $I_{\text{in}}$  indicates a negative temperature dependence, which explains the current collapse at low temperatures. This effect is not sufficient, under ordinary conditions, to explain the observed current collapse. It is believed that this collapse is caused by electron scattering in the semiconductor, producing local micro-junctions. Tests have shown that the current collapse occurs in a tin-tantillum alloy at a controlled temperature of 100°C. The current density  $I_{\text{in}}$  through  $I_{\text{in}}$  is decreased and  $I_{\text{in}}$  may be increased by decreasing the temperature. To eliminate this effect, the following improvements must be made: 1) to increase the carrier concentration; 2) to change the formulae.

RECORDED AND INDEXED BY: AN MZOR (Physics-Engineering Institute)  
SUBMITTED: 15Feb64 SNCL: 02 SUB CODE: EC

NO REF SOV: 005  
Card 2/4

OTHER: 000

L 00270-66  
ACCESSION NR: AP5020853

ENCLOSURE: 01

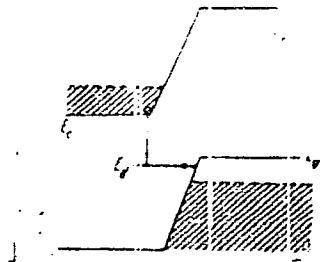


Fig. 1.  
Possible mechanism of excess current with the participation

Card 2/4

L 00270-66

ACCESSION #: A15020958

ENCLOSURE: 02

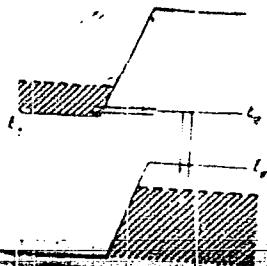


Fig. 2.  
Participation of deep acceptor levels in the tunnel current

Card 4/4

*YUSUPOVA, N.K.*

USSR/ Physical Chemistry - Thermodynamics. Thermochimistry. B-8  
Equilibrium. Physicochemical Analysis. Phase Transitions.

Abstr Jour : Referat Zhur - Khimiya, No 3, 1957, 7499

Author : Telipov, Sh.T., Sultanov, A.S., Tishkhodzhayev, A.T. and  
Yusupova, N.K.

Inst : Academy of Sciences Uzbek SSR

Title : On the Solubility of Calcium Sulfate in Aqueous Solutions  
of Glycerine.

Orig Pub : Dokl. ANUzSSR, 1956, No 1, 25-27 (Uzbek summary)

Abstract : The solubility of  $\text{CaSO}_4$  in aqueous solutions of glycerine (I) at 20, 30, and  $40^\circ$  has been determined for concentrations of I from 5 to 80 percent. The solubility of  $\text{CaSO}_4$  in aqueous solutions of I decreases with increasing temperature and increasing concentration of I. As the concentration of I is increased, the pH of the solution is lowered from 5.85 (at 5 percent) to 2.92 (at 80 percent).

Card 1/1

- 122 -

YUSUPOVA, N.K.; MARKMAN, A.L.

Polarographic behavior of high-molecular weight hydroxamic acids. Uzb. khim. zhur. 7 no.6:36-40 '63. (MIRA 17:2)

1. Institut khimii AN UzSSR.

YUSUFOVA, N. Ya.

YUSUFOVA, N. Ya.: "The effect of Euphrasia officinalis on blood circulation and experimental hypertension." Tashkent Medical Inst., Tashkent, 1956. (Dissertation For the Degree of Candidate in Medical Sciences.)

Knizhnaya letopis', No. 39, 1956. Moscow.

MIRRAKHIMOV, M.M.; YUSUPOVA, N.Ya.

Influence of pain on the condition of the lymphatics and capillaries  
in the zone of irradiation. Vrach. delo no.8:79-81 Ag '60.  
(MIRA 13:9)

1. Klinika fakul'tetskoy terapii (zav. - prof. M.Ye. Vol'skiy)  
Kirgizskogo meditsinskogo instituta.  
(PAIN) (CAPILLARIES) (LYMPHATICS)

YUSUPOVA, N. Ya.

Norm for arterial pressure in workers and employees of industrial enterprises and establishments of the city of Frunze. Sov. zirav.  
Kir. no.3:14-18 My-Je '62. (MIRA 15:5)

1. Iz poliklinicheskogo otdeleniya Kirgizskoy Respublikanskoy klinicheskoy bol'nitsy (glavnyy vrach - S.D.Rafibekov, nauchnyy rukovoditel' - dotsent M.M.Mirrakhimov).

(BLOOD PRESSURE)  
(FRUNZE--LABOR AND LABORING CLASSES--MEDICAL EXAMINATIONS)

MIRRAKHOV, M.M.; YUSUPOVA, N.Ya.

Pathogenesis of bronchial asthma. Sov.med. 26 no.7:24-27 J1 '62.  
(MIRA 15:11)

1. Iz kliniki propedevtiki vnutrennikh bolezney (sav. - dotsent  
M.M.Mirrakhimov) Kirgizskogo meditsinskogo instituta.  
(ASTHMA)

YUSUPOVA, N.Ya., kand.med.nauk

Hypotensive effect of eyebright in an experiment and in a  
clinical study. Trudy NIIKI no.5:132-141 '62. (MIRA 16:4)

I. Kafedra (akul'tet'skoy terapii (zav. - prof. M.Ye.Vol'skiy  
dotsent R.I.Ibragimova) i kafedra farmakologii Kirgizskogo  
meditsinskogo instituta (zav. - dotsent Ye.A.Stegaylo).  
(EYEBRIGHT) (ANTIHYPERTENSIVE AGENTS)

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1,  
p 60 (USSR)

15-57-1-379

AUTHOR: Yusupova, S.

TITLE: Colloidal Minerals and Their Role in Studying the  
Neogene Paleogeography of the Southern Tadzhik  
Depression (Kolloidnyye mineraly i ikh rol' v izuchenii  
paleogeografii neogena Yuzhno-Tadzhikskoy depressii)

PERIODICAL: Dokl. AN TadzhSSR, 1955, Vol 14, pp 23-28.

ABSTRACT: The author has studied the Neogene glauconite-feldspar,  
hornblende and garnet series in the southern Tadzhik  
depression. X-ray structures were used to determine  
the colloidal minerals. The presence of palygorskite  
(mountain leather) and montmorillonite in the hornblende  
series leads the author to propose a reducing environ-  
ment in the rocks.

Card 1/1

D. A. V.

**YUSUPOVA, S.A.**

**Effect of thyroid gland hormones on the correlation of separate  
protein fractions in the blood serum. Vop. med. khim. 8 no.6:  
586-592 N-D '62. (MIRA 17:5)**

**I. Laboratoriya patologii belkovogo obmena i immunokhimii  
Instituta biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.**

**YUSUPOVA, S.A.**

Nemorrhages in the placental stage and early postlabor hours  
according to data of the Andizhan maternity home. Med. zh.  
Uzbek. 3:15-17 '63 (MIRA 17:2)

1. Iz kafedry akusherstva i ginekologii (zav. - dotsent  
S.A. Adintsova) Andizhanskogo gosudarstvennogo meditsinskogo  
instituta.

YUSUPOVA, S.; ANTIPOV-KARATAYEV, I.N., prof., akademik, otv. red.; POPOV,  
I.V., prof., red.

[Mineralogical characteristics of loess in the Vakhsh Valley] Mi-  
neralogicheskie osobennosti lessov Vakhshskoi doliny. Stalinabad,  
Tadzhikskii gosuniversitet im. V.I.Lenina, 1958. 200 p.  
(MIRA 14:11)

1. AN Tadzhikskoy SSR(for Antipov-Karatayev).  
(Vakhsh Valley—Loess)

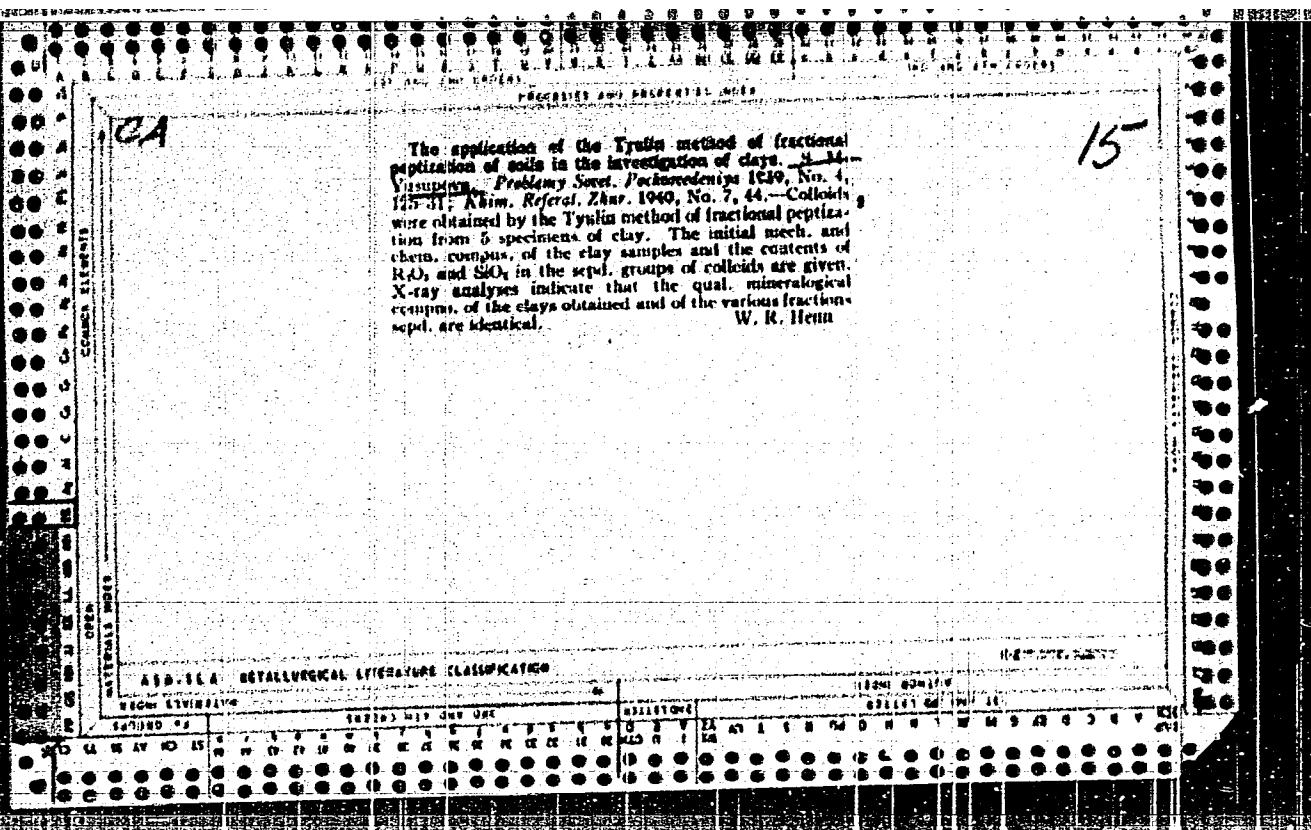
YUSUPOVA, S. I. Syundyukov, A. Z.

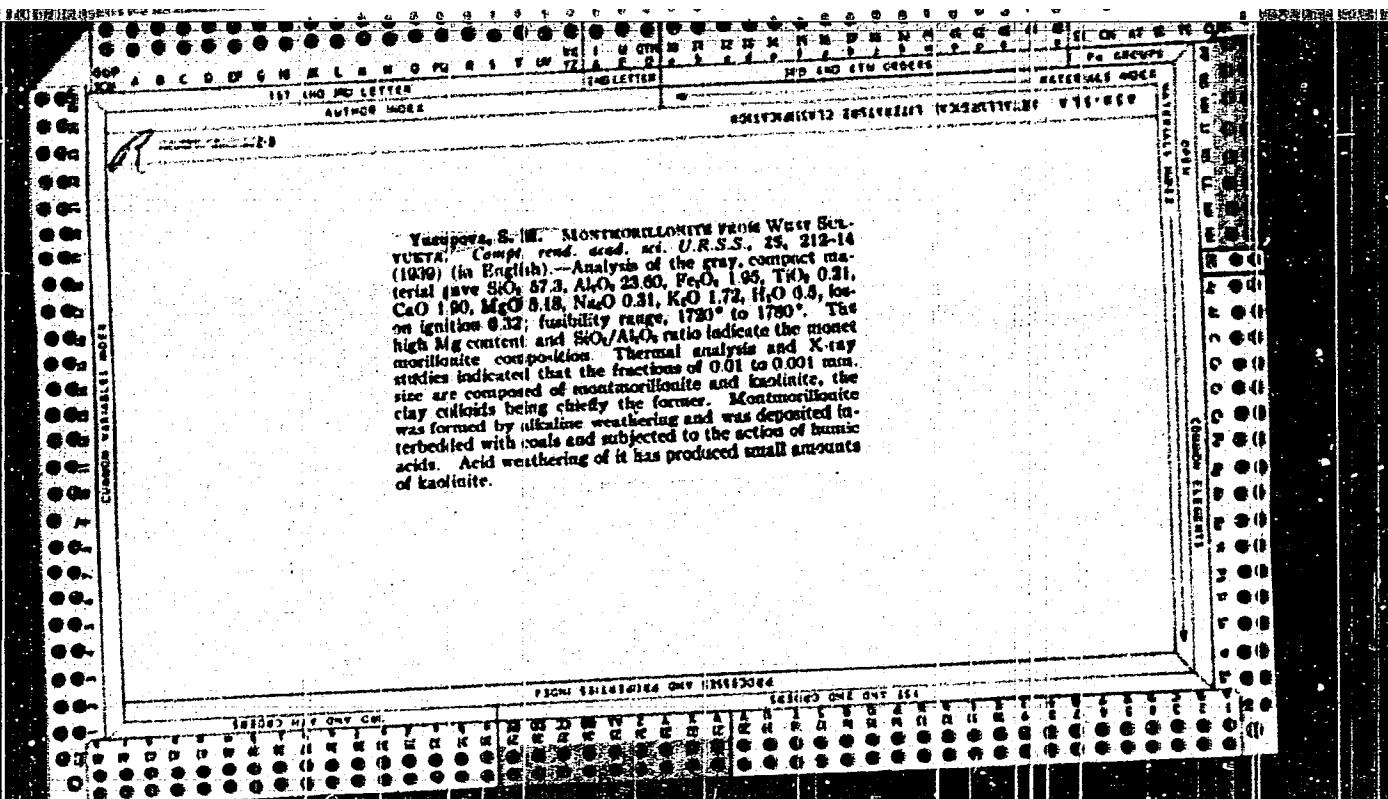
26994

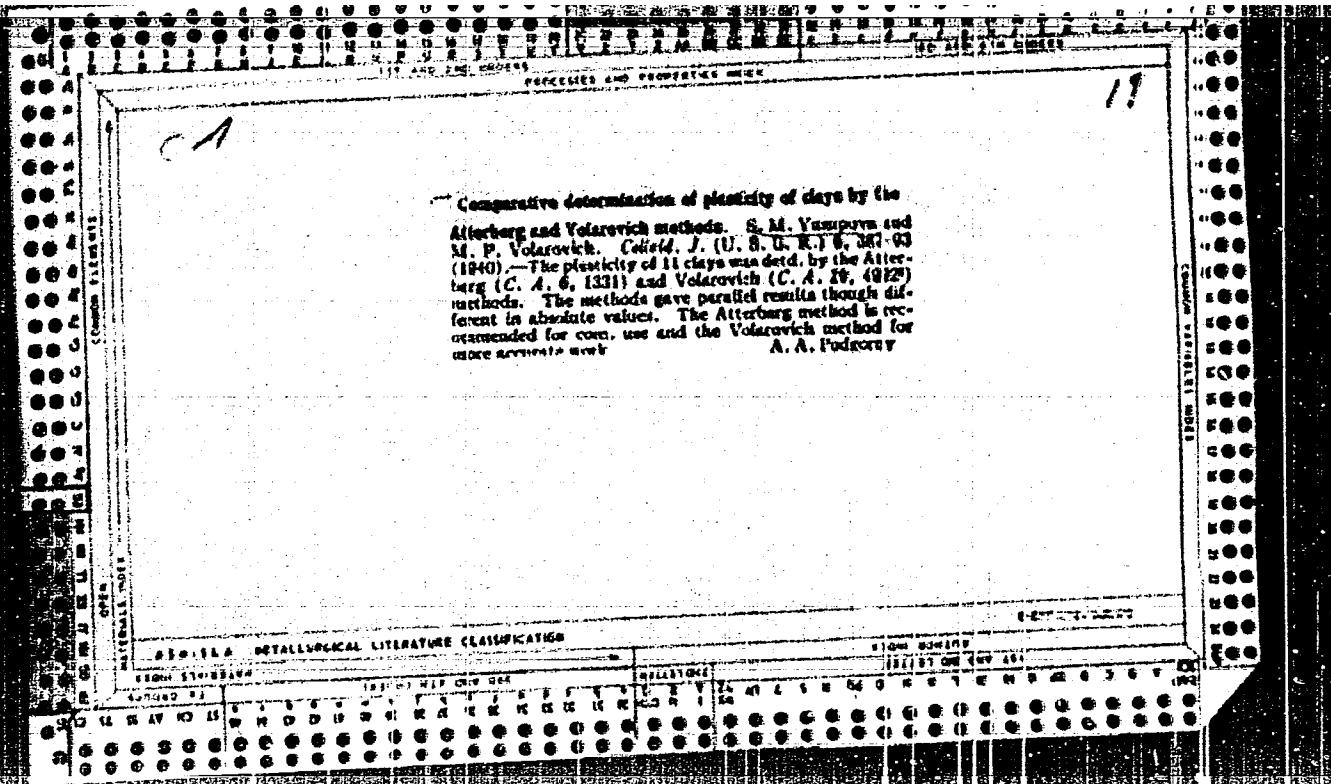
Stepen' Razrushennosti Polevykh Shpatov V Razlichnykh Svitakh Verkhnje-Tretichnykh Tolshch. - V Ogl. 2-Y Avt: A. Z. Syundyukov. Soobshch. Tadzh. Filiala Akad. Nauk Sssr. Vyp. 16, 1949, S. 14-15.

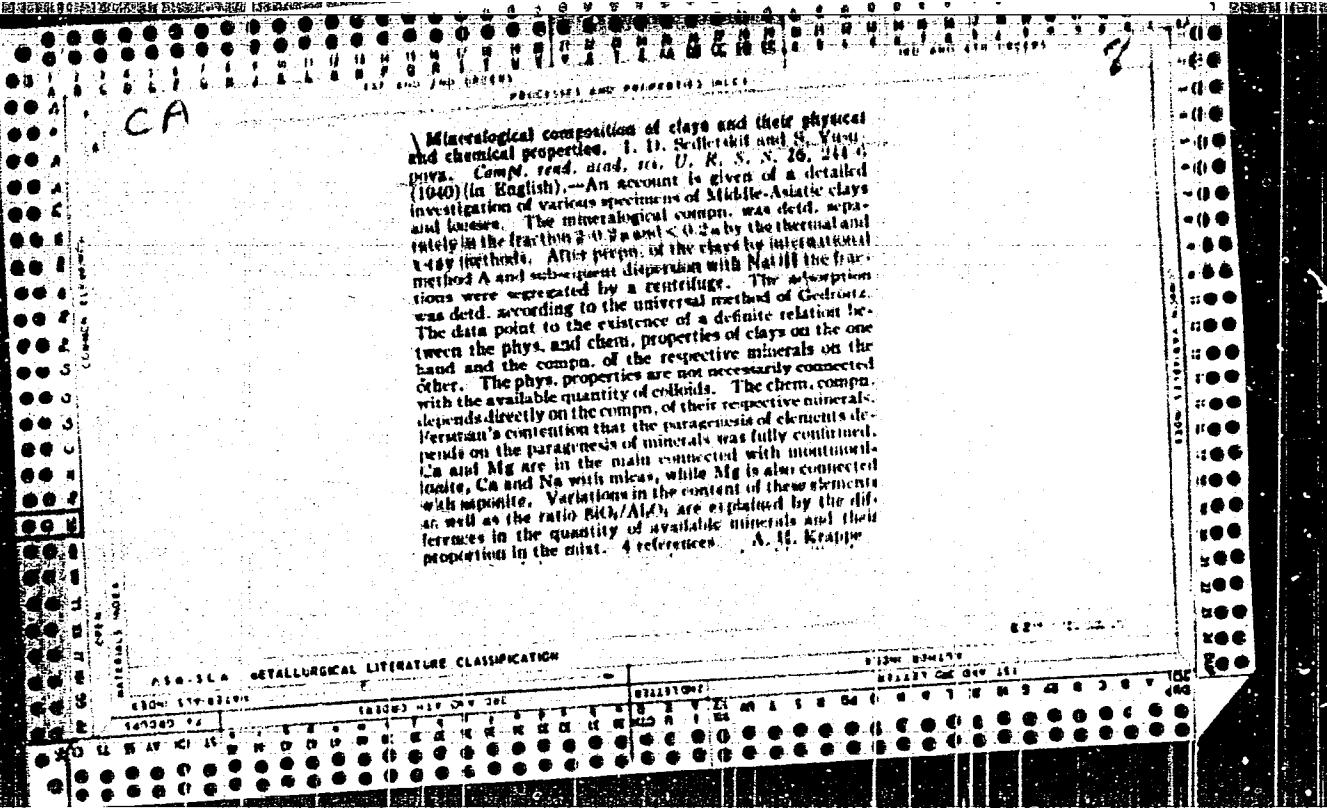
SO: LETOPIS NO. 34

6. Geofizika, Geokhimiya









Argillaceous material closely approaching halloysite  
L. D. Sledzinski and S. Vargiuera, *Compt. rend.*, vol.  
261, pt. R, no. 3, 20, 311-7 (1965) (in English). X-ray,  
thermal and chem. examn. of the colloidal fraction (< 0.2  
μ) of the Abilyk clay gave evidence of the new mineral,  
abilysite, which analyzed SiO<sub>4</sub> 43.12, AlO<sub>4</sub> 31.01, FeO<sub>4</sub>  
2.98, TiO<sub>2</sub> 0.29, Mn (trace), CaO 1.10, MgO 1.21, K<sub>2</sub>O 1.12,  
Na<sub>2</sub>O 0.134, P<sub>2</sub>O<sub>5</sub> 0.100, H<sub>2</sub>O (in solid soln.) 13.13 and  
H<sub>2</sub>O (hygroscopic) 3.24%. Heating curves closely approach  
those of halloysite but a comparison of its powder  
diagram with those of other argillaceous materials shows  
it to be new. The ignition products of abilysite and halloysite  
also show different x-ray patterns. The formula is  
believed to be K<sub>0.3</sub>Rb<sub>0.6</sub>Al<sub>2</sub>O<sub>5</sub>Si<sub>4</sub>O<sub>10</sub>. K, Mg and Ca are  
fixed in the lattice in interchangeable form.

D. W. Pearce

C

Bentonite clays of Changyr-tash. S. M. VYGOVSKAYA. Compt. rend. acad. sci. U.R.S.S., 35, 250 (1941); abstracted in Proc. Brit. Ceram. Soc., 44 [0] 80A (1945). A search was made for bentonite suitable for use in the oil industry of Uzbekistan. The probable existence of bentonite in Changyr-tash had already been indicated, and the clays of that region were therefore subjected to X-ray examination and thermal analysis. Five samples were taken varying in chemical composition from 44.1 to 41.7 SiO<sub>2</sub>, 14.8 to 18.5 Al<sub>2</sub>O<sub>3</sub>, 1.0 to 0.2 Fe oxide, 2.5 to 8.4 CaO, 3.1 to 4.9 MgO, 1.9 to 2.9 K<sub>2</sub>O, 1.6 to 2.7 NiO, and 11.7 to 21.2% loss on ignition. The clays were very rich in particles less than 1.2  $\mu$  in size; they contained large proportions of montmorillonite and showed high swelling properties in water. The clays are considered to be comparatively deep-water deposits, carried as the product of weathering from the Fergana Chatkal range. The clay minerals at the time when the deposits were laid down was arid or semiarid, and the weathered crust was characterized by the presence of montmorillonite, beidellite, and illite; these minerals have been very slightly alkaline ( $pH = 7.2$ ) and therefore favorable to the preservation of the montmorillonite.

## APPENDIX METALLURGICAL LITERATURE CLASSIFICATION

FROM SYNTHEZIS

SUSZOKI MAP ONE CEE

MONT. BENTONITE

MONT.

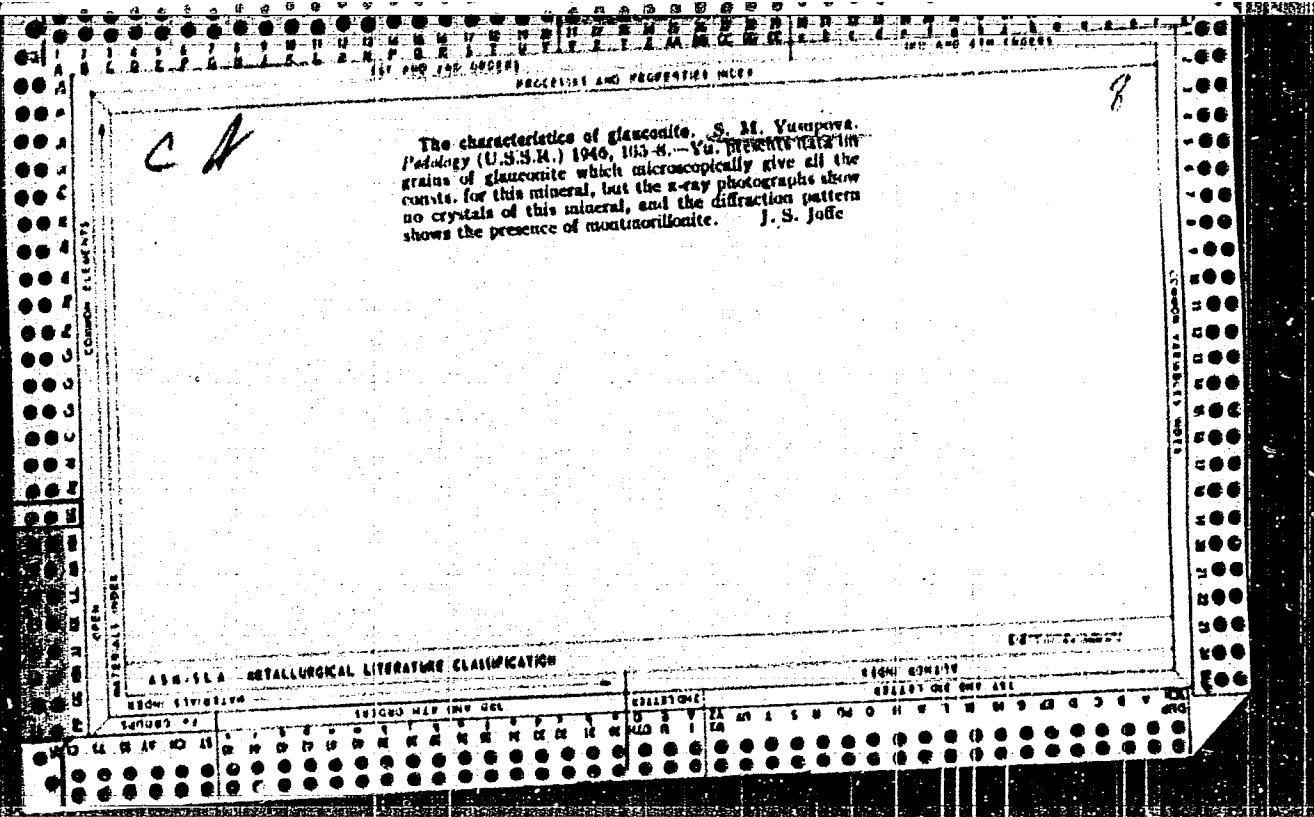
BENTONITE

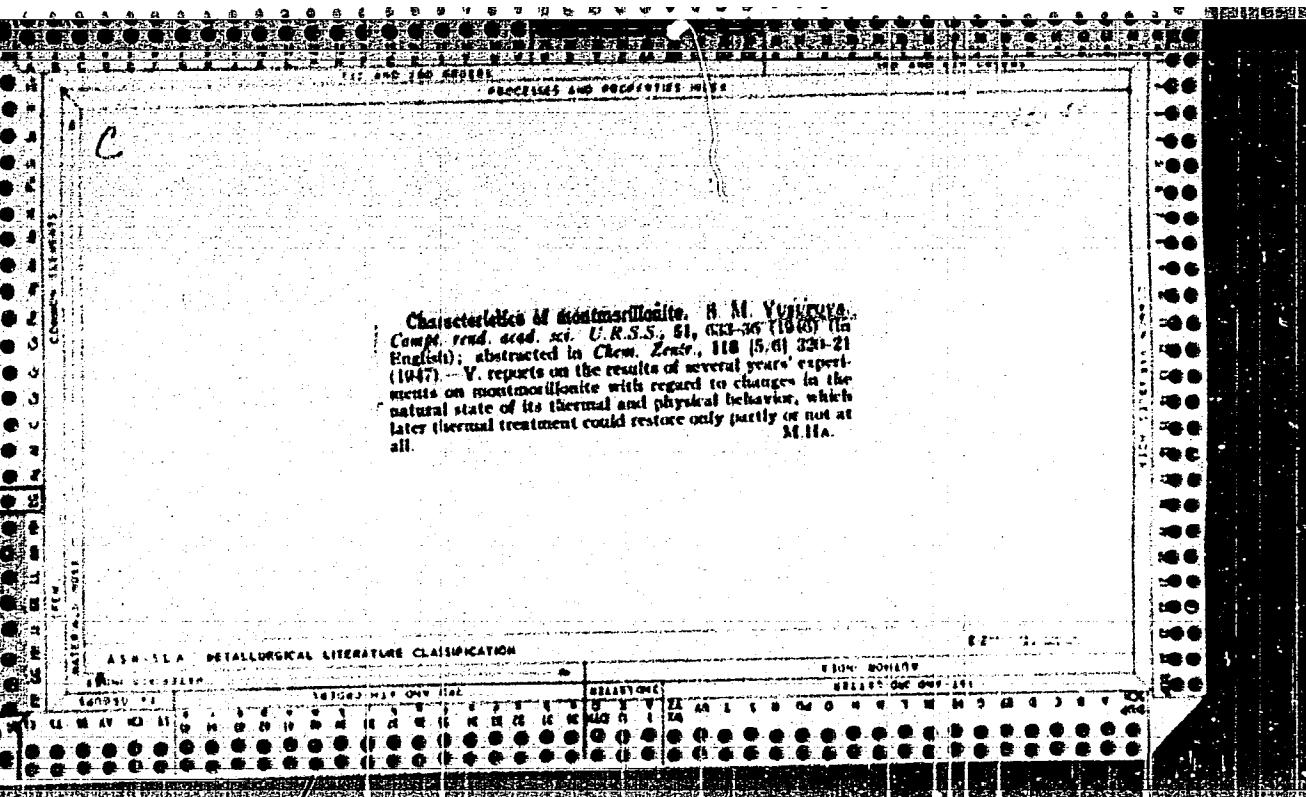
MONT. BENTONITE

MONT.

BENTONITE

1ST AND 2ND COLUMNS		3RD AND 4TH COLUMNS		5TH AND 6TH COLUMNS					
PROCESSES AND PREPARATION INDEX		STRUCTURE AND PROPERTIES INDEX		TESTS AND ANALYSIS INDEX					
<i>Cf</i>									
Variation in parameters of montmorillonite $\alpha$ affected by petroleum. I. D. Sereitskii and S. M. Vysotskaya. <i>Cont. read. add. no. 10 R.S.S.</i> (6) p. 307 (1955). Akad. Nauk S.S.R. 40, No. 3 (1955). The value of the basic interlayer distance was found to vary from 10.0 to 28 Å. for different samples of montmorillonite clays; high values always being observed for samples from petrolierous areas. An investigation was undertaken to check the possible dependence of high values of $d_{001}$ on the influence of petroleum products. Specimens were subjected to x-ray analysis by the Debye-Scherrer method. Samples taken from oil-well cores which consequently had been subjected to the action of oil showed $d_{001} = 20$ to 20.21 Å. Samples taken from oil-bearing regions but not directly subjected to the action of oil showed $d_{001} = 14$ to 16 Å. Specimens from non oil-bearing regions, $d = 10.21$ to 10.80 Å., after satg. with water, volatile oil fractions, and oil, showed $d = 12.3$ to 14.27 Å., 15 to 17 Å., and 27.5-27.7 Å., resp.. A mechanism of absorption of oil compounds by montmorillonite based on the extension of the $\alpha$ -lattice along the $c$ -axis is given. Gordon Findlay.									
ASG-10A - METALLURGICAL LITERATURE CLASSIFICATION									
EIGHTH EDITION									
140-002-42									
SEARCHED <i>HELP ONLY</i> FILE									
COLLECTED									
REFINED FOR THIS FILE									
INDEXED									
SERIALIZED									
FILED									





"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0

MAVLYANOV, G. A., and YUSUP'OVA, S. M.

"Mineralogical Composition of the Terrace Strata of Chinchek as an indication  
of the Relative Age of the River Terraces," Dok. AN, 57, No. 6, 1947

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0"

YUSUPOVA, S. M.

42131 YUSUPOVA, S. M. - Issledobaniye sostava tverdogo stoka Syr-Dar'i I Obrazuyushchikhsya za yego schet nanosov. Soobshch. Tadzh. Filiala Akad. Nauk SSSR, Vyp. 7, 1948,  
c. 3-6

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

CR

Formation of montmorillonite. S. Yusupova. Doklady Akad. Nauk S.S.R. 79, 445-7 (1960). Pure kaolinite ( $\text{Mg}(\text{Si}_4\text{O}_10)$ ) and boehmite, mixed in the ratio 2.20:1.20, were ground for 10 days in a colloid mill; the x-ray diagram of the resulting mix showed an extremely high dispersion. Then this mix was treated with NaOH and calcite at pH 8.0 to 8.5, the alk. was kept const. for 2 months, the mix was shaken, and allowed to stand. The product was filtered and dried after 8 months; it showed only very indistinct and weak lines, some of montmorillonite, besides kaolinite and calcite, but no boehmite. After a reaction time of 14 months montmorillonite and dolomite were ob-

served; after 24 months they had more distinct montmorillonite interferences,  $d = 10 \text{ \AA}$ . The differential heating curve of the latter product showed the endothermic effects at 180, 645 and 780° of montmorillonite. The dye absorption is equal to that of a typical brucite;  $a = 1.541 \pm 0.002$ , with strong birefringence. Kaolinite when mixed with hydroxylmicaite and treated with calcite and NaOH for 2 yrs. also formed a montmorillonite. It is concluded that the reaction of aluminosilicates with alk. rocks in the weathering zone must generally bring about an alk. media the formation of montmorillonite. W. Pitel

YUSUPOVA, S.; BOSOV, V.D.

Mineralogical characteristics of Neocene formations in the southern Tajikistan depression. Dokl. AN Tadzh.SSR no.5:3-7  
'52. (MLRA 9:10)

1. Deystvitel'nyy chlen AN Tadzhikskoy SSSR (for Yusupova)
2. Institut geologii AN Tadzhikskoy SSR.  
(Tajikistan--Mineralogy)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0

U.S. 4

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APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0"

YUSUPOVA, S.M.

USSR/Cosmochemistry. Geochemistry. Hydrochemistry. D.

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 2654.

Author : Yusupova, S.M.

Inst : Tadzhik University.

Title : Sepiolite from Darvaz.

Orig Pub : Uch. zap. Tadzh. un-t, 1955, 6, 35 - 40.

Abstract : Chemical, immersion, thermal and x-ray analyses of 6 specimens of magnesia hydrosilicates connected with the ancient crust of serpentine weathering were carried out. The results of chemical analyses are as follows (in%): meerschaum - SiO<sub>2</sub> - 51.05, 51.00, 50.01; Fe<sub>2</sub>O<sub>3</sub> - 2.03, 3.10, 4.00; Al<sub>2</sub>O<sub>3</sub> - 0.33, 0.90, 0.30; FeO - 0.09, 0.15, 0.10; CaO - 2.10, 1.59, 0.90; MgO - 24.15, 23.20, 24.00; MnO - traces, 0.05, 0.09; H<sub>2</sub>O - 10.12, 9.20,

Card 1/2

YUSUPOVA, S.; BOSOV, V.D.

Correlation of indeterminate upper Tertiary formation in Southern  
Tajikistan. Dokl.AN Tadzh.SSR no.14:7-11 '55. (MLRA 9:9)

1. Deystvitel'nyy chlen AN Tadzhikskej SSR (fer Yusupeva). 2. Institut  
geologii AN Tadzhikskej SSR.  
(Tajikistan--Geology, Stratigraphic)

YUSUPCVA, S.

Miocene period in the southern Tajikistan lowland. Dokl. AN Tadzh. SSR  
no. 14:23-28 '55.  
(MIRA 9:9)

I. Deyatvitel'nyy chlen AN Tadzhikekey SSR. Institut geologii AN  
Tadzhikekey SSR.  
(Tajikistan--Paleogeography) (Oboleids)

~~YUSUPOVA, S.~~

Axinite in the Darvaza Range. Dokl. AN Tadzh.SSR no.15:  
3-6 '56. (KLIA 9:10)

1. Deystvitel'nyy chlen AN Tadzhikskoy SSR. 2. Kafedra  
mineralogii i petrografii Tadzhikskogo gosudarstvennogo  
universiteta.  
(Darvaza Range--Axinite)

YUSUPOVA, S., akademik

Mineralogy of Shurab clays. Dokl. AN Tadzh. SSR no. 20:23-32 '57.  
(MIRA 11:7)

1. AN Tadzhikskoy SSR. Kafedra mineralogii i petrografii Tadzhikskogo  
gosudarstvennogo universiteta i Institut geologii AN Tadzhikskoy SSR.  
(Shurab Region--Clay)

YUSUPOVA, S.

Materials on the mineralogical and geochemical characteristics  
of celestite from southern Tajikistan. Izv. Otd. est. nauch. AN  
Tadzh. SSR no. 21:3-20 '57. (MINA 11:8)

1. Kafedra mineralogii i petrografii Tadzhikskogo gosudarstvennogo  
universiteta i Institut geologii AN Tadzhikskoy SSR.  
(Tajikistan--Celestite)

YUSUPOVA, S.

Geochemistry of mineral waters from the thermal springs of Tajikistan. Trace elements in the thermal waters of Tajikistan. Dokl. AN Tadzh. SSR no.21:19-25 '57. (MIRA 11:?)

1.Tadzhikskiy gosudarstvennyy universitet im. V.I. Lenina. Predstavлено кафедрой минералогии и петрографии Таджикского государственного университета им. В.И. Ленина.

(Tajikistan--Mineral waters) (Trace elements)

CHEDEYA, Dina Mikhaylovna; YUSUPOVA, S.M., ctv. red.; KHABAKOV, A.V.,  
red.; ZHANOVDA, A.I., red.; SALABATULLIN, R., tekhn. red.

[Review of the classification of Radiolaria; a manual on fossil  
Radiolaria] Obzor sistematiki radioliarii; posobie dlja izuchenija  
iskopаемых radioliarii. Stalinabad, 1959. 328 p. (MIRA 14:9)  
(Radiolaria, Fossil)

YUSUPOVA, S.M.

Mineralogic and petrographic characteristics of clays in the Khar-  
angon Canyon. Trudy Tadzh.gos.un. 28 no.1:7-29 '60. (MIRA 15:1)  
(Gissar Range--Clays)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0

YUSUPOVA, Z.A., inzh., PETRI, V.N., doktor sel'skokhoz. nauk

Lignocarbohydrate wood plastics of pine chips with additions  
of larch resin. Der. prom. 14 no. 12:15-17 D '65.

(MIRA 18:12)

1. Ural'skiy lesotekhnicheskiy institut.

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0"

YUSTUS, A. (Jusius, A)

Increase the oleoresin yield. Gidroliz. i lesokhuz. prom. 21  
no.1:25-26 '58.  
(MIRA 11:2)

1.Kaunasskiy khimleakhoz.  
(Oleoresins) (Tree tapping)

YUSYUS, A.

Increasing yield of oleoresin in tree tapping. Gidroliz.i lesokhim.  
prom. 12 no.2 22-23 '59. (MIRA 12:3)

1. Kaunasskiy khimleskhoz.  
(Kaunas--Tree tapping)

37842  
S/117/62/000/005/001/003  
A004/A101

15, 1124

AUTHOR: Yut, A. L.

TITLE: Epoxy glue for bonding metals

PERIODICAL: Mashinostroitel', no. 5, 1962, 23

TEXT: The author reports that his plant [Abstracter's note: no name given] is using epoxy IP (PR) grade glue on the base of the hard 3-41 (E-41) epoxy resin and dicyan diamide for bonding the magnetic system of telephone inductors which was formerly brass-welded by h-f currents. Since this glue is not toxic, no special precautions are necessary. The glue is cast in the form of oblong rods and can be stored for 2 - 3 years without losing its high qualities. It consists of the following constituents: 100 parts by weight of E-41 epoxy resin, 7 parts by weight of dicyan diamide and 160 parts by weight of powdered iron. The resin and the dicyan diamide are carefully ground on a ball mill, then all constituents are mixed, the glue powder is screened through a no. 0.15 sieve, then the glue is formed into rods in a press mold without pressure at a temperature of 100 - 110°C. Each lot of finished glue is tested with

Card 1/2

Epoxy glue for metal parts

S/117 '92/000/005/001/003  
A004/A101

special specimens. Its tensile stress limit should be in the range of 4,200 - 5,000 kg, i.e. the bonding seam should have a tensile strength of 780 - 800 kg/cm<sup>2</sup>. The author presents a brief description of the gluing operation of metal parts.

Card 2/2

YUT, Anatoliy L'vovich; SUKMANOV, V.F., red.; SUKMANOV, E.G., tekhn.  
red.

[Plastics in the machinery industry] Plastmassy v mashinostroenii.  
Perm', Permskoe knishnoe izd-vo, 1962. 43 p. (MIRA 15:12)  
(Machinery industry) (Plastics)

SOV/126-6-3-8/32

AUTHORS: Arkharov, V. I., Simonova, M. I. and Yut, M. K.

TITLE: On the Texture of Iron Scale (O teksture v zheleznay okaline). XII. Structural Changes in Scale in the Case of Substitution of Atmospheres Producing Higher Oxides by an Atmosphere Producing Wustite (XII. Strukturnyye izmeneniya v okaline pri zamene atmosfer, sozdayushchikh vysshiiye okisly, atmosferoy, sozdayushchey vystit)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 3, pp 444-449 (USSR)

ABSTRACT: In earlier work the authors investigated the structural changes in scale taking place during high temperature oxidation when substituting the water vapour atmosphere by air (Ref 1) and the air by water vapour, a mixture of water vapour and hydrogen or with pure hydrogen (Ref 2). Such investigations are of interest since they permit elucidation of certain details of the structural picture of the transformations in the system Fe-O representing a particular example of reactions in the solid state. The practical interest of such investigations is due to the necessity of elucidating the influence on gas corrosion of changes in the atmosphere which frequently take place

Card 1/7

SOV/136-6-3-8/32

On the Texture of Iron-Scale. XII. Structural Changes in Scale  
in the Case of Substitution of Atmospheres Producing Higher Oxides  
by an Atmosphere Producing Wustite

under real conditions of operation. The aim of this paper was to investigate by X-rays the changes in the structure of the iron scale, forming in atmospheres which are in equilibrium for the higher oxides of iron  $\text{Fe}_2\text{O}_3$  and  $\text{Fe}_3\text{O}_4$  (air and water vapour respectively), assuming that the oxidation is continued in the medium with a lower partial pressure of oxygen which is in equilibrium for the lower oxide of iron,  $\text{FeO}$ , i.e. a sufficiently diluted mixture of water vapour and hydrogen. The investigations were carried out on Armco type iron. The method of preparing the oxidation atmospheres, the specimens and the execution of the experiments was similar to that described in earlier work (Refs. 2 and 3). Preliminary simultaneous oxidation of the specimens (massive and tubular) was effected in an atmosphere of water vapour for obtaining a magnetite scale in the outside layer, or in air for obtaining hematite in the outside layer. The internal layer of the scale consisted of wustite in all the cases under consideration.

Card 2/7

On the Texture of Iron Scale. XII. Structural Changes in Scale  
in the Case of Substitution of Atmospheres Producing Higher Oxides  
by an Atmosphere Producing Wustite

SOV/126-6-3-8/32

Furthermore, pairs of specimens were heated in an atmosphere of a mixture of water vapour with hydrogen at 1000°C; one of these (the tubular one) consisted only of scale, the other had metal under the layer of scale. The holding times of the specimens, which were oxidized preliminarily in air, were 5, 10, 30 and 120 mins. In this part of the experiment (oxidation in a mixture of H<sub>2</sub>O + H<sub>2</sub>) a reference specimen consisting of non-oxidized iron was placed in the furnace for the purpose of verifying the conditions of oxidation, i.e. the composition of the atmosphere; on all the reference specimens a single phase wustite scale formed. Investigation of the structure of the scale, which formed during the preliminary as well as during the subsequent oxidation, included making the X-ray exposures of the external layer with K-Mo radiation for the purpose of detection and analysis of the texture by means of a method (Ref 4) described in earlier work, qualitative evaluation of the relative grain size in the outside

Card 3/7

SOV/126-6-3-8/32

On the Texture of Iron Scale. XII. Structural Changes in Scale  
in the Case of Substitution of Atmospheres Producing Higher Oxides  
by an Atmosphere Producing Wustite

layer of the scale on the basis of the "pointedness" of the diffraction lines on the "texturo-graphs" (recorded without rotating the specimens) and also phase analysis of pulverised scale by means of K-Fe radiation. On the basis of the obtained results the following conclusions are arrived at: The scale which forms during oxidation of iron in water vapour or air suffers a number of structural changes if the atmosphere in which it forms is substituted by a mixture of water vapour and hydrogen for which a lower iron oxide, wustite, is in a state of equilibrium at the temperatures 800-1000°C; these changes are attributed to the following processes:

- 1) On the outside of the scale a process of reduction of the higher oxide into FeO takes place, which is accompanied by the diffusion of iron ions into the depth of the scale; the product of reduction is linked in its orientation with the initial higher oxide from which it inherits the texture. Due to the diffusion of the iron from the external layer to the inside, the reduction

Card 4/7

SOV/126-6-3-8/32

On the Texture of Iron Scale. XIII. Structural Changes in Scale  
in the Case of Substitution of Atmospheres Producing High Oxides  
by an Atmosphere Producing Wustite

propagates to the depth of the scale.  
2) The volume changes taking place during the transformation of the lattice of the higher oxide into the lattice of the lower oxide bring about stresses in the outside layer of the scale. This leads on the one hand to formation of cracks (which are particularly intensive in the case that the preliminary oxidation was in air and the scale in the outside layer contained hematite so that during the subsequent stage a double-phase transformation hematite-magnetite-wustite occurs). On the other hand the stresses bring about a recrystallisation which leads to a coarsening of the grain in the layer of the reduced oxide, maintaining the texture, which in this stage will be the texture of the recrystallisation growth. As regards the crystallographic type, it is linked in orientation with the texture which forms directly after the reduction.  
3) Crack formation in the outside layer of the scale accelerates reduction in the deeper layers due to the penetration into these of the reducing gas along the cracks

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SOV/126-6-3-8/32  
On the Texture of Iron Scale. XII. Structural Changes in Scale  
in the Case of Substitution of Atmospheres Producing High Oxides  
by an Atmosphere Producing Wustite

and due to its direct interaction with the oxides in the deeper layers of the scale.

4) If there is non-oxidised metal under the scale, the process of reduction of the higher oxide will take place as a result of diffusion of iron from the transforming external layers of the scale as well as as a result of diffusion from the non-oxidised core. This latter process will continue even after completion of the reduction of the higher oxides. At this stage the growth of wustite on the outer side of the scale will increase, whereby the texture which occurs in the preceding stage of the process remains conserved.

5) Conservation in the layer of the wustite of the texture type, which is due to the orientational connection with the original higher oxide, is in agreement (in spite of the non-correspondence of this type with conditions of continuing oxidation) with earlier obtained results and

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SOV/126-6-3-8/32

On the Texture of Iron Scale. XII. Structural Changes in Scale  
in the Case of Substitution of Atmospheres Producing High Oxides  
by an Atmosphere Producing Wustite

is apparently due to the small difference in the surface  
energy of the wustite faces (100), (110) and (111).  
There are 7 references, all of which are Soviet.

ASSOCIATIONS: Ural'skiy gosudarstvenny universitet imeni  
A. M. Gor'kogo (Ural State University imeni A. M. Gor'kogo) and  
Institut fiziki metallov Ural'skogo filiala AN SSSR  
(Institute of Metal Physics, Ural Branch, Ac.Sc., USSR)

SUBMITTED: December 6, 1957

1. Iron--Scale
2. Iron oxide--Structural analysis
3. X-ray analysis--Applications

Card 7/7

LASKAVA, S.M.; YUT, N.S.

Substituting fish and marine animal oils for vegetable oils in  
paint materials. Khim. prom. [Ukr.] no.1:71-73 Ja-Mr '65. (MIRA 18:4)

YUT, N.; LASKAVAYA, S.

Successful substitute. Mest. prom. i khud. promys. 3 no.9:  
32-33 S '62. (MIR 16:12)

1. Nauchno-issledovatel'skiy institut mestnoy i toplivnoy  
promyshlennosti Gosplana UkrSSR.

YUTANOV, M. N.

YUTANOV, M. N. --"Application of Photogrammetry to a Certain Problem of Engineering."  
Sub 25 Jun 52, Military Red Banner Engineering Academy imeni V. V. Kuybyshev  
(Dissertation for the Degree of Candidate in the Technical Sciences)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

LEBANOV, Aleksey Nikolayevich, prof., doktor tekhn. nauk; YUTANOV, M.N.,  
dots., kand. tekhn. nauk; YENIKEYEV, G.Sh., inzh.; VALUYEV, A.S.,  
dots.; VASIL'YEVA, V.I., red. izd-va; ROMANOVA, V.V., tel'm.  
red.

[Photogrammetric topography; terrestrial stereophotographic  
surveying] Fotografiia; nazemnaja stereofotograficheskaja  
sъemka. Izd.2., perer. i dop. Moskva, Izd-vo geodez. lit-ry,  
1960. 194 p.

(Photographic surveying)

YUTANOV, Mikhail Nikolayevich; VYSOTSKIY, A.N., red.; KHROMCHENKO, P.I.,  
red.izd-va; ROMANOVA, V.V., tekhn.red.

[Adjustments in spatial phototriangulation] Uravnenie  
prostranstvennoi fototrianguliatsii. Moskva, Izd-vo geodes.  
lit-ry, 1961. 70 p. (MIRA 14:6)  
(Aerial photogrammetry) (Errors, Theory of)

YUTANOV, S.I., aspirant

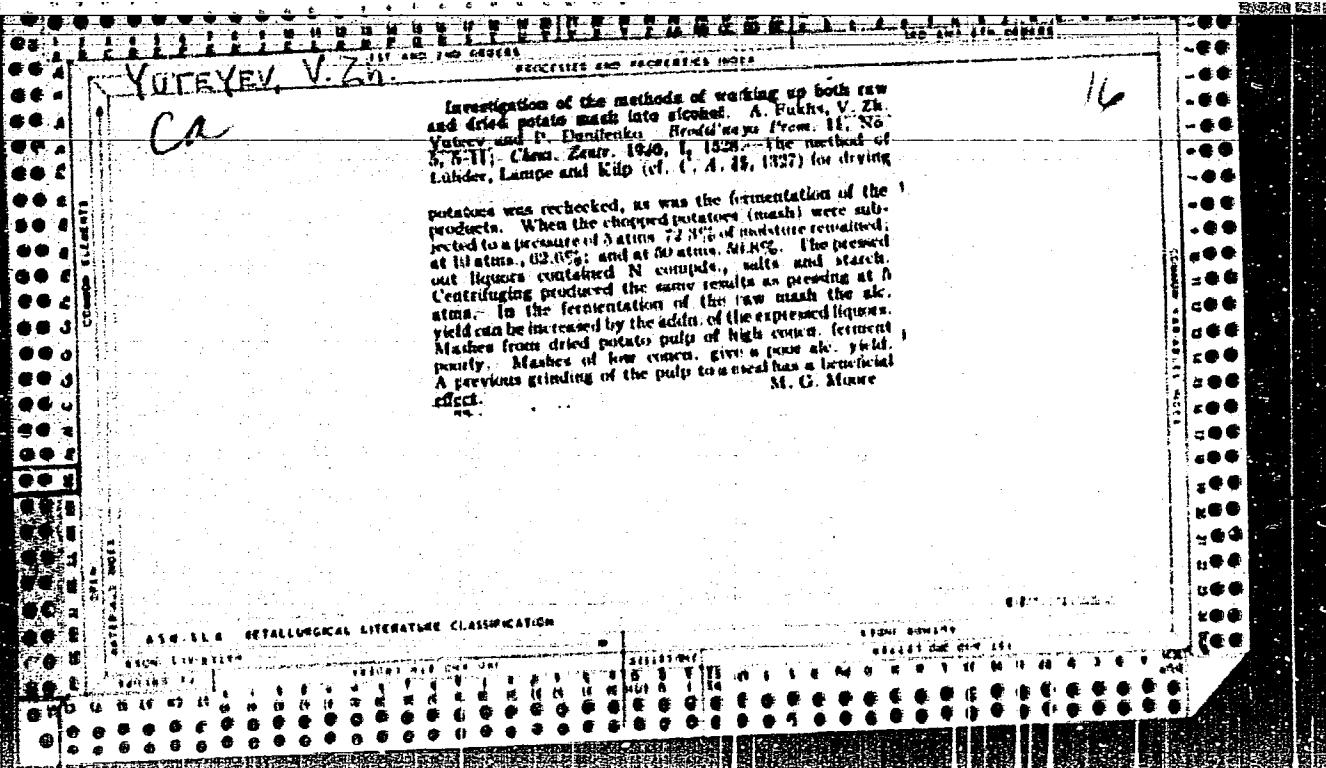
New method of determining the velocity of blood flow. Uch. zap.  
GMI no.8:19-24 '59. (Milia 14:9)

1. Iz kafedry farmakologii (zav. kafedroy - prof. N.P.Siritsyn).  
(BLOOD-CIRCULATION)

YUTANOV, S.I. (Gor'kiy, ul. M.Yamskaya, d.41, kv.8)

Experimental data on the surgical treatment of cardiac aneurysm.  
Grud. khir. 6 no.2:50-53 Mr-Ap '64. (MIRI 18:4)

1. Kafedra farmakologii (zav. -- prof. N.P.Sinitayn) Gor'kovskogo  
meditsinskogo instituta imeni Kirova i Gor'kovskiy nauchno-issledo-  
vatel'skiy institut travmatologii i ortopedii (dir. -- dotsent M.G.  
Grigor'yev).



SIMONOV, A.M.; YUTILOV, Yu.M.

Derivatives of benzimidazole. Part 10: Interaction of 1-alkyl-  
and 1-benzyl-substituted 2-aminobenzimidazoles with alkyl  
halides. Zhur.cb.khim. 32 no.8:2670-2673 Ag '62. (MIRA 15:9)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.  
(Benzimidazole) (Alkyl halides)

ROZENBERG, G., kand.tekhn.nauk; YUTKEVICH, R., inzh.

Practices in the operation of the "John Sergeant's gas-turbine.  
Kor.-flot 21 no.2:42-45 F '61. (MIRA 1:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut morskogo  
flota.

(United States—Marine gas-turbines)

YUTKEVICH, R.M.

Operation of fuel separator as a purifier. Khim. i tekhn. toplo,  
i masel. 6 no.10:37-43 O '61. (MIRA 14:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut morskogo flota.  
(Separators (Machines)) (Fuel)

YUTKEVICH, R.M.

Trial system of fuel preparation devised by the Central Scientific Research Institute for the Merchant Marine for gas turbine plants.  
Trudy TSNIIMF 7 no.34:103-111 '61. (MIRA 14:8)  
(Marine gas turbines) (Diesel fuel)

YUTKEVICH, R.M., inzh.

Self-discharging marine separators for the cleaning of heavy  
fuels [from foreign journals]. Sudostroenie 27 no.6:67-73  
Je '61. (MIRI 14:6)

(Petroleum as fuel—Cleaning)  
(Separators (Machines))

S750786000000000000

AUTHORS: Vutkevich, R. M., Engineer,

TITLE: Results of first-stage work on the analysis and assessment of marine gas-turbine powerplants.

SOURCE: Bor'ba s kerozinyey dvigatelyey, mirem i sverkoye perekrytiiem  
ustanovok. Vses. sovet. nauchn. i tekhn. zhurn. "Mashgiz,"  
Mashgiz, 1962, 184-189.

THEY TRIED to fit 13,000-hp gas turbine (GT) powerplants with oil-bunker fuel to the ships of the Maritime (All-Union) OCT //COST # 001-57 Standard) bunker fuel oil accepted by the USSR as an economically advantageous replacement for Diesel and steam power. The following technical problems were unsolved at this time: High-efficiency combustion, inhibition of coking phenomena, preventing problems are: High-efficiency combustion products. In the GT, the use of oil fuel is limited by the low calorific value of oil, which is about 10% lower than that of bunker fuel. Since special oil fuel would be more expensive than bunker fuel ashore and might not be available in foreign ports, it appears preferable to use and improve ordinary bunker fuel oil in installations planned ship. Emissions can be affected either by multipurpose additives or by the original design. The British tanker "Auria," in which multipurpose additives were used, in which the maximum temperature of the turbine flue gas limited to 650°C, while the oil fuel is

S/75342/000/3001 (Rev 1)

Results of first-stage work on the washing...  
excessive deposits. The U.S. freighter "John Sergeant," in which a G-2 unit was installed and two-stage separating plant with subsequent introduction of  $MgSO_4$  as a V-corrosion additive was used, operated successfully for 9406 hrs (during which time the V-corrosion additive was used). Soviet GT currently under development are the PTY-(GTV)-10 TVP (6,000 bbl), with high-pressure-stage gas temperature  $750^{\circ}\text{C}$ ,  $p=8.7$  atm, r.f.c.=6,120 bbl/h. The projected GTU-20, which comprises two GTU-10s geared to a joint reduction gear, has the fuel-processing scheme is illustrated and explained. The fuel is heated and washed with 5-8% (by weight) hot fresh water. An emulsion inhibitor (EI) is added to prevent the formation of a stable fuel-water emulsion (E).  $MgSO_4 \cdot 7H_2O$  crystals are added as a V-corrosion inhibitor. The water rejected by the separator is returned to the shipboard. UHAWM (TsNIIMF) test stand for the washing and separation of the fuel after subsequent introduction of additive. The test stand constructed at the TsNIIMF (Central Naval Scientific Research Institute) is illustrated by a full-page view. Separation. It comprises a laboratory model of the projected shipboard setup, including tanks, flow-metering, mixing, washing, EIIing, separating, and discharge tanks, and metering equipment. Details on dimensions, discharge tanks, type of pumps used, and control ranges are provided. Processing of engine oil (DTE-1) on the TsNIIMF stand: The separation of DTE-1 fuel after being washed (W) formed (T1) in a single stage on fuel washed in transport (2-3% water); (2) in a single stage on fuel washed with 6-12% handset water; (3) in a single stage on fuel washed to 5-6% upon contact heating by steam; (4) in 2 stages on fuel washed to 5-6% upon contact heating by steam.

Card 2/3

A. Results of first-stage work on the washing, S/756/56/10008-0, of engine fuel DT-1: 1. An E with  $H_2O$  globules up to 50  $\mu$  dia was obtained by mixing consisting of a throttle-valve-in series and by a live-steamer bath. The low-d (0.5% S) fuel DT-1 forms a stable E with 5-10%  $H_2O$ , which places it inoperable. 0.02% S (OF-7) causes it to become unstable after 10 min of normal separation. 2. Washing by live-steamer bath up to 100% water most effective; spectrum analysis of the initial fuel, intermediate stages, final fuel, and the sludge, covering 11 elements, is tabulated. 3. The  $MCl - (NSM)$ -type separator reduces the water content of the fuel from 10-12% to 1-2% per single cycle, but it is not suitable for prolonged operation because of clogging. A longer purification cycle between separation cycles is recommended. In 2-stage separation most of the water and ash reduction occurs in the first stage ( $MCl - (NSM)$ : 1.5-1.8 to 1-5% for water, from 0.05-0.06 to 0.025-0.03% for ash); in the second cycle (3.5 to 1-4% and 0.025-0.03 to 0.02-0.028%, respectively). 4. After the formation of a highly dispersed E after the first separation, the water reduction effectiveness is high at  $T=75-85^{\circ}\text{C}$ , considerably lower at  $T=60^{\circ}\text{C}$ . 5. Reducing the ash content implies a sharp decrease in Na and K content but not in Ca content. 6.  $MCl - (NSM)$ -type separators require changes in the design of the discharge valve under them to prevent clogging and, hence, qualify them for use aboard ships and heavy ships. There are 2 figures and 1 (unnumbered) tables; no author or ASSOCIATION; None given.

Card 3/3

KURZON, Ananiy Grigor'yevich, doktor tekhn.nauk, prof.; LIIVIRIN,  
Oleg Grigor'yevich, inzh.; PETROV, Yevgeniy Valerianovich,  
inzh.; POTYAYEV, Vyacheslav Andreyevich, kand. tekhn.nauk;  
KHOROZYANTS, Aleksandr Georgiyevich, kand. tekhn.nauk;  
CHERTKOV, Aleksandr L'vovich, Laureat Leninskoy premii;  
YUTKEVICH, Rostislav Mikhaylovich, inzh.; MOISEYEV, A.A.,  
doktor tekhn.nauk, prof., retsenzent; MASLOV, A.A., kand.  
tekhn. nauk, dots., retsenzent; ZAYTSEV, Yu.I., kand. tekhn.  
nauk, retsenzent; KOZHEVNIKOV, A.V., kand. tekhn.nauk,  
retsenzent; GITEL'MAN, A.I., inzh., retsenzent; SMIRNOV,  
Yu.I., red.; TSAL, R.K., tekhn. red.

[Marine steam and gas turbines] Sudovye parovye i gazovye tur-  
biny. Pod red. A.G.Kurzona. Leningrad, Sudpromgiz.  
Vol.2. [Systems and working principle of turbomachinery units]  
Sistemy i ustroistva turboagregatov. 1962. 419 p.

(MIRA 15:11)

(Marine turbines)

YUSUPOV, R.M. (Leningrad)

Consideration of delay in adaptive control systems. Izv. Akad. SSSR. Tekhn. kib. no.4:137-141 Jl-Ag '64. (MIRA 17:12)

YUTKEVICH, R.M.; SHCHERBAKOVA, L.V.

Investigating the efficiency of certain surfactants as demulsifiers  
of boiler mazuta. Khim.i tekhn. i masel 10 no.1:50-52 Ja '65.  
(MIRA 18:4)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0

YUTKIN, L., izobratatel' (Leningrad)

Wire made of metal chips. Izobr. i rats. no. 11:22 163.  
(MIRA. 16:12)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0"

1.1210

32188

S/019/61/000/021/069/074  
A154/A126

AUTHORS: Yutkin, L.A., Gol'tsova, L.I.

TITLE: A method of obtaining deforming forces

PERIODICAL: Byulleten' izobreteniy, no. 21, 1961, 63

TEXT: Class 49g, 1002. No. 142502 (419284/25 of June 5, 1950).  
1. A method of obtaining deforming forces by means of electrohydraulic hammers in a fluid medium, distinguished by the fact that, in order to carry out forging, stamping, coining, workhardening, driving in, bending, breaking and other forms of material working, the electrohydraulic hammers are reproduced in a cylinder or chamber with a piston or diaphragm which takes up the hammering force and transmits it to the object being deformed either directly or through a tool connected with the piston or diaphragm. 2. A method as in 1., distinguished by the fact that, in order to regulate the force or rigidity of the hammer, it is possible to vary the parameters of the pulses at a given spark length, or the distances between the electrodes and the piston or diaphragm, or the physical properties of the fluid, e.g., its elasticity.

Card 1/1

34319

S/019/61/000,024/087/088  
A156/A126

1.1200

AUTHORS: Yutkin, L.A., and Gol'tsova, L.I.

TITLE: A method of producing deformation forces

PERIODICAL: Byulleten' izobreteniy, no. 24, 1961, 81

TEXT: Class 58a, 1. No. 129485 (434366/25 of September 11, 1950). This is the new text of the invention registered under the above mentioned number and published in No. 12, 1960, this periodical. 1. A method of producing deformation forces by using a pump to reproduce them in a cylinder or in a chamber with a piston or a diaphragm, which take up the force and transmit it to the object being deformed, either directly or through a corresponding tool linked with the piston or diaphragm, the distinctive feature of which consists in that for the purpose of producing the growing forces required by the technology involved for pressing materials or for forcing them through a drawing die or nozzle, the increase of the deformation forces is produced by a multistage electrohydraulic pump, combined with the press into one unit. 2. A method as in 1, different in that several electrohydraulic pumps work for one common receiver. 3. A method as in 1-2, different in that the initial impetus received by the fluid from the electrohydraulic pump

✓

Card 1/2

A method of producing....

S/019/61/000,024/087/088  
A156/A126

is utilized for starting the metal to flow through the drawing die or nozzle, after which a flow of metal is maintained, when the electrohydraulic pump is disengaged, developed under lower pressures by known means. 4. A method as in 1-2, different in that the electrohydraulic pump is made use of only for final pressing or sizing of the pressed object, the male die being fed to and withdrawn from the workpiece by the usual means.

Card 2/2

37512

8/019/62/010/006/083/083

A155/A126

1.1Y10

AUTHORS: Yutkin, L.A.; Gol'tsova, L.I.

TITLE: Method of producing dynamic deformation stresses by electrohydraulic impacts

PERIODICAL: Byulleten' izobreteniya, no. 6, 1962, 77

TEXT: Class 49g, 10<sub>02</sub>. No. 142502 (419284/25 of June 5, 1950). This is the new text of the subject of invention described in Author's Certificate No. 142502, previously published in this Byulleten' no. 21, 1961: 1) A method of producing dynamic deformation stresses by electrohydraulic impacts in a liquid medium, the distinctive feature of which consists in that for use in forging, stamping, expanding, coining, building-up, stripping, ramming, binding, breaking-off, cutting, and other material-working processes, electrohydraulic impacts are produced either in a cylinder, or in a chamber provided with a piston or a membrane (or in a row of cylinders or chambers respectively oriented), which receive the impacts and transmit them either directly or through a link member to the object being worked. The reversal of the piston or membrane is effected by atmospheric pressure when the cavitation space is closed. 2) A method as described

Card 1/2

S/019/62/000/006/083/083

A156/A126

Method of producing dynamic deformation stresses ....

in 1, distinguished in that for regulating the strength or toughness of the impacts, pulse parameters at a given spark length are changed by varying the distance between the electrodes and the piston or membrane, which changes the physical properties of the liquid, e.g., its extensibility. 3) A method as described in 1 and 2, wherein for the purpose of replenishing the loss of liquid, or for continuously replacing same with a simultaneous removal of the traces of a formed gas or steam, the inlet and outlet channels for the liquid have a cranked form.

X

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S/019/62/000/011/085/086  
A154/A126

AUTHORS: Yutkin, L.A.; Gol'tsova, L.I.

TITLE: A method of restoring the dimensions of hollow machine parts

PERIODICAL: Byulleten' izobreteniy, no. 11, 1962, 80

TEXT: Class 58a, 1. No. 147917 (456035/24278/25 of November 14, 1955).  
1) The method of restoring the dimensions of hollow machine parts and other components such as pistons, pins and shafts consists in flaring or reducing them to the required dimensions set by a mold or gage. It is distinguished by the fact that these operations are performed by the action of electrohydraulic hammers on dischargers placed in a fluid inside or outside the part. 2) A method as in 1 is distinguished by the fact that the electrohydraulic hammers are generated in an elastic closed or open shell filled with fluid, including pumped-over fluid.

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8/019/62/000/010/005/090  
A156/A126

AUTHORS: Yutkin, L.A.; Gol'tsova, L.I.

TITLE: A method for forging, drawing, bending and other operations involved in shaping moldable sheet materials

PERIODICAL: Byulleten' izobreteniya, no. 10, 1962, 21.

TEXT: Class 7c, 15. No. 147162 (622741/25 of March 23, 1959). 1) A method for forging, drawing, bending and other operations involved in shaping moldable sheet materials has a novel feature which consists in that such operations are made by the power of electro-hydraulic impacts. These are generated in open or closed vessels in which the material being formed represents either the bottom, wall or cover. 2) In a method as in 1 the impacts are produced either between an electrode and the material being formed; or between two electrodes with one having the shape of a ring; or between an electrode and a current-conducting screen located near the surface of the formed material; or by a thermal explosion of current-conductive materials arranged as desired next to the surface of the formed material. 3) In a method as in 1 and 2 the electrode

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A method for forging, drawing, bending and ....

8/019/62/000/010/005/090  
A156/A126

(or electrodes) is either moved linearly, or in a spiral pattern, or is symmetrically revolved, or its progress is delayed over points to be deeply drawn-in to obtain a certain shape of surface sections. 4) When performing a bending operation by the method as in 1 - 3, one forms material through an elastic sheet (e.g., a rubber sheet) containing numerous current-conducting contacts.

Card 2/2

YUTKIN, L. A.

ELECTROHYDRAULICS

**UNDERWATER LIGHTNING CLEANS CASTINGS (USSR)**

The Leningrad Machine Tool Plant imeni Sverdlov is using underwater lightning for cleaning the surfaces of castings ranging in weight from 20 grams to several tons. An underwater spark discharge (lightning), called by its inventor (L. A. Yutkin) the "electrohydraulic effect," creates pressures up to 28,000 atmospheres. These pressures, together with the action of ultrasound and the shockwave created in the water during spark discharge, clean the surfaces of the castings thoroughly. In comparison with the method presently used, electrohydraulic cleaning requires 50 times less energy and 15 times less water, while productivity is three times higher and surface quality better. (Pravda Ukrayiny, 24 Jul 1963, 4, col. 6) [SS]

SO: A.I.D. Press, Vol. 2, No. 73, 9 Oct 63, Uncl.

AUTHOR: Tikhin, I. A.; Golitsova, L. I.

79

TITLE: Method of obtaining high and superhigh pressures. "Tikhin, No. 1"

TYPE: Technical article

FIELD: Chemical engineering, physical chemistry, thermodynamics, physics, technology, technology of materials

ABSTRACT: The article describes a method for obtaining high and superhigh pressures. The method involves the use of a high-pressure vessel containing a liquid, which is heated to a temperature above its critical point. The pressure is then increased by adding a gas to the vessel. The resulting pressure is determined by the temperature and the amount of gas added. The method is particularly useful for obtaining pressures up to 1000 MPa. The article also discusses the properties of various materials under high pressure, such as the melting point, density, and viscosity. The results of the experiments are presented in tables and graphs.

MARKERS OR THermal ELEMENTS: None

APPENDIXES: None

NOTES: None

USSR

ACCESSION NR: AP4004115

S/0286/63/000/020/0096/0096

AUTHOR: Yutkin, L. A.; Gol'tsova, L. I.

TITLE: Method and device for generation of high and ultrahigh pressures. Class 58, No. 120045

SOURCE: Byul. izobret. i tovarn. znakov, no. 20, 1963, 96

TOPIC TAGS: explosive forming, high energy forming, HERF, electrical discharge forming, explosive forming device, HERF device, repeated pulse, electric discharge

ABSTRACT: High and superhigh pressures for generation of electro-hydraulic shocks are created through evaporation by means of a pulse discharge of current-carrying elements in the form of a wire, ribbon, or tube closing the electrodes. Electrohydraulic shocks in a given direction, or their intensification by directional focusing, can be obtained either by bending the current carrying elements into a shape which will produce the desired focusing or by shaping them as conical or spherical spirals. Ribbon-like current-carrying

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ACCESSION NR: AP4004115

elements can be bent separately or simultaneously in the longitudinal or transverse directions. A special device was designed to impart the appropriate shape to the recess cavity which orients the direction of the electrohydraulic shocks and in this way gives them the effort in the preassigned direction; reflectors of various shapes are used, for example plane or spherical, oriented in the necessary way with respect to the evaporating current-carrying elements. To obtain repetitive hydraulic shocks, element feed can be made continuous or synchronized with the current pulses.

SUBMITTED: 29Dec52 DATE ACQ: 13Dec63 ENCL: 00

SUB CODE: ML, IS NO REF Sov: 000 OTHER: 000

Card 2/2

YUTKIN, L.A., POPILOV, L.YA., inzhener; redaktor; FETISOV, F.I.,  
inzhener, redaktor; POL'SKAYA, R.G., tekhnicheskiy reduktor;

[Electrohydraulic effect] Elektrogidravlicheskii effekt.  
Moskva, Gos. Nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry,  
1965. 49 p.

(Electric discharges)

(MLRA 8:9)

YUTKIN, L. A.

112-3-6124

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957,  
Nr 3, p. 155 (USSR)

AUTHOR: Yutkin, L.

TITLE: Electrohydraulic Effect and Its Application to Mining  
(Elektrogidravlicheskiy effekt i yego primeneniye v  
gornom dele)PERIODICAL: Stroit. materialy, izdeliya i konstruktsii, 1955, Nr 9,  
pp. 13-15

ABSTRACT: A high-voltage spark discharge in a liquid is accompanied by phenomena similar to a detonation, with formation of shock waves and cavitation areas. It is proposed that this phenomenon, which is called the electrohydraulic effect, be used in mining for drilling blastholes in rock. The drill bit is a metal tube with a collar on the end. In the center of the tube there is a rotating insulated electrode, the end of which is bent. The tube is connected to the negative terminal of the power source and to ground; the electrode is connected to the positive terminal. The rock is shattered by the action of periodic spark discharges between the

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112-3-6124

**Electrohydraulic Effect and Its Application to Mining (Cont.)**

end of the electrode and the collar teeth. In drilling corundum with a bit 30 mm in diameter, a rate of 3-5 cm/min. was attained, with a power consumption of 250 w. It is pointed out that the rate of drilling can be increased considerably by increasing the power, at the expense of higher discharge frequency. The electrohydraulic effect is also used to crush hard rock. The construction of rock crushers operating on the above principle is explained. It is possible to obtain either large pieces of rock (30-50 mm), or pieces in a colloidal state, depending upon the electrical operating conditions. The electrohydraulic effect can also be applied to material cutting. In all the above cases, industrial water is used as the drilling liquid. The voltage supplied by the source is 20-100 kv. In the opinion of the author, the hydrodynamic phenomena accompanying spark discharge in a liquid can serve as a basis for designing high- and superhigh-pressure pumps, the principle of which is briefly explained. A.I.K.

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"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0

LOSEV, B.I.; MEL'NIKOVA, A.N.; SAPRYKIN, F.Ya.; YUTKIN, L.A.

Crushing coal by the electrohydraulic method. Vest. AN SSSR 29  
no.6:52-65 Je '59. (MIRA 12:5)  
(Coal, Pulverized) (Electric discharges)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963310008-0"

YUTKIN, L., inzh.

Usual miracles. NTO 3 no. 6:22-27 Je '61. (MIRA 14:6)

(Electric discharges)

L 04250-67	EWT(m)/T	DJ
ACC NR: A <sup>u</sup> 6005398	(N)	SOURCE CODE: UR/0413/66/001/001/0153/0153
AUTHOR: Yutkin, L. A.; Gol'tsova, L. I.		37 36 B
ORG: none		
TITLE: A method for obtaining superhigh hydraulic pressures and a device for implementing this method. Class 58, No. 119074		
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 153		
TOPIC TAGS: superhigh pressure, hydraulic pressure amplifier, spark shock wave		
ABSTRACT: This Author Certificate presents a method for obtaining <u>superhigh</u> <u>hydraulic pressures</u> in accordance with Author Certificate No. 105011. In order to provide constantly increasing pressures, spark discharges alternating in a given sequence are generated in a previously compressed and successively compressible liquid. The device is made in the form of a <u>cylindrical hydraulic</u> chamber either divided into sections or without sections. One end of the chamber is connected to pipes which feed the liquid, and the other end of the chamber is connected to a receiver. The spark gaps are positioned in this receiver and are aligned either along the chamber at a specified distance from one another or are placed in each section of the chamber. To provide a shifting of the liquid to the receiver side,		
Card 1/2	UDC: 621.226.621.7.044.4	

L 04250-67

ACC NR: AP6005398

check valves are used, mounted between the sections. The sections of the chamber are divided by baffles with holes instead of by valves. The shape of the device is controlled by the need to impart a direction to the shock wave and to prevent the shifting of the liquid to the receiver side. The sections are given the shape of mutually intersecting parabolas (in cross section). To provide a given sequence of firing by the discharges of the whole family of spark gaps, a tumbler switch or a firing device is used.

SUB CODE: 13/ SUBM DATE: 15Apr50

Electrohydraulic Effect 8

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21(9)

AUTHORS:

Abramov, A. I., Yutkin, M. G.

SOV/39-6-5-17/33

TITLE:

Measurement of the Hard Fraction of the Neutron Spectrum in  
the Reactor BR-5 by Means of a He<sup>3</sup>-Ionization Chamber  
(Izmereniye zhestkoy chasti neytronnogo spektra v reaktore  
BR-5 ionizatsionnoy kameroy s He<sup>3</sup>)

PERIODICAL:

Atonnaya energiya, 1959, Vol 6, Nr 5, pp 575-576 (USSR)

ABSTRACT:

A small spherical ionization chamber filled with a He<sup>3</sup> + Ar-mixture is used for measuring the neutron spectrum of BR-5 (Ref 1). The active zone of the reactor consists of plutonium oxide surrounded by nickel. The use of He<sup>3</sup> for the purpose of detecting fast neutrons is described in more detail by references 2-6. The ionization chamber with preamplifier is inserted into various beam tubes (e.g. central channel passing through the center of the core; oscillator channel passing the core center at a distance of 450 mm), and the neutron spectra are measured: For pulse separation a single-channel catalyst is used. For each channel the neutron spectrum is recorded. That of the oscillator channel is mentioned as an example. Neutrons having an energy of more than 1 Mev occur comparatively rarely,

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